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Vincent Parnabas, Julinamary Parnabas and Antoinette Mary

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Editorial Message

We welcome you to the fastest and the smartest psychology network on web. Our goal is to foster new ideas, research and knowledge related to the field of psychology and share it with the world.

The experiments and research done in the area of 'Sports Psychology'; by Vincent Parnabas, Julinamary Parnabas and Antoinette Mary Parnabas are very advanced. We are proud and feel glad to present before you these articles about sports psychology.

All the 10 researches published in **IJIP's Advanced Research on Sports Psychology** enlighten us deeply in the matters of sports psychology. The authors have aimed at showing you, how sports and psychology are intertwined and how both have a significant effect on each other. We hope that these researches teach you something new, help you gain insight about the dynamics of sports, psychology and any other factors related to these. We also hope that these researches form a ladder, and remain so, for further studies on sports psychology. We thank the writer of these researches for their hard work and contribution in expanding our knowledge base.

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The Effect of Cognitive Anxiety on Sport Performances among Football Players

Vincent Parnabas[1], Julinamary Parnabas[2], Antoinette Mary Parnabas[3]

ABSTRACT:

Sports psychologists have long believed that high levels of cognitive anxiety during competition are harmful, worsening performance and even leading to dropout. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 and The Psychological Performance Inventory which had been distributed during sport between universities competition. The sample consisted of 119 football players, including the national athletes (N=37), state athletes (N=23), district athletes (N=23) and university athletes (N= 36).The results showed that elite or national football athletes exhibited lower levels of cognitive anxiety, $F_{(3, 119)} = 16.310$, $p < .01$. The result also showed that the exits of negative correlation between cognitive anxiety and sport performance among football players, ($r = -0.73$; $p<0.05$). Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Keywords: Cognitive, Sport Performance, Skill of players.

INTRODUCTION:

Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitative towards performance, which may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Many researches showed that winning in a competition depend on how an athlete can control their anxiety level (Humara, 2001). Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Jarvis, 2002; Martens, Vealey & Burton, 1990).

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The cognitive is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention (Jarvis 2002; Martens, Vealey & Burton, 1990). Contradictory, the somatic is the physiological element, which related to autonomic arousals, negative symptoms such as feelings of nervous, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in your stomach (Jarvis, 2002; Jones, 2000; Martens, Vealey & Burton, 1990).

Researchers have reported that over 50 of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). According to Hann (2000) high levels of anxiety during competition are harmful, worsening performance and even leading to dropout. Therefore, it's very important to know the level of anxiety especially the cognitive anxiety in order to take all necessary preparation to reduce it.

Catastrophe Model well described the relationship between cognitive anxiety and sport performance (Cox, 2012; Weinberg & Gould, 2011; Ampofo-Boateng, 2009). According to this theory, an achievement of best sport performance results can obtain only when there is low level of cognitive anxiety. Once an athlete experience high level of cognitive anxiety as in a situation where an athlete is worrying and it combines with increase of arousal beyond and optimal level, there will be a quick or catastrophic decrease in performance. However, since there is lack research, there has been very poor research support for the catastrophe model (Ampofo-Boateng, 2009).

Recent investigation found that male and female athletes suffering stresses resulted pressure to win, excessive anxiety, frustration conflict, irritation and fear, which significantly affected their mental or emotional health (Humphrey, Yow & Bow 2000). Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels (Heather, 2010), especially the level of cognitive anxiety. However, since lack of research on cognitive anxiety and its effect on performances, sport psychologists still failed to determine the relationship among those variables. Moreover, most of the previous research, focused on elite athletes, while ignoring less successful athletes. This was confirmed by Krane (1995) that research on competitive anxiety mainly focused on elite athletes. The extant literature also shows that there is a limited research comparing on cognitive anxiety among football athletes of state, district and university level.

The main purpose of this study was to examine the levels of cognitive anxiety among football players of different skill. The present study aim to determine the level of cognitive anxiety and its effect on performances between football players of national, state, district and university level. In other words, this research sought to correlate the relationship between somatic anxiety and performance.

METHODS

The participants of this study were recruited from sport between universities. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 (CSAI-2) and 42-item The Psychological Performance Inventory, which had been distributed during sport between universities. The Psychological Performance Inventory asses seven factor of performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 119 football players, including the national athletes (N=37), state athletes (N=23), district athletes (N=23) and university athletes (N= 36).

RESULT

Respondents' Profile

The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 119 football players. The age of male respondents varied from 18 to 23 years, where the mean age was 21.31 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 37 respondents had participated at national, whilst 23 respondents participate at state, 23 had participated at district and 36 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=90) and Diploma (n=29) programmes.

Table 1: Respondents' Profile (n=119)

Variables	Frequency	Percentage	Mean	SD
Athletes according to Skills				
National	37	31.09		
State	23	19.33		
District	23	19.33		
University	36	30.25		
Programme				
Diploma	29	24.37		
Degree	90	75.63		
Age				
Male			21.31	2.17

Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .81 to .83 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=119)
Cognitive Anxiety	.8349
Sports Performance	.8132

Level of Cognitive Anxiety

Table 3 shows the mean scores for the cognitive anxiety among football athletes of different skills, F (3, 119) = 16.310, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was lower than those in other categories.

Table 3: Level of Cognitive Anxiety among Football Players

Skills of Athletes	Mean	F-Value	P-Value
National	12.3107	16.310**	0.000
State	14.4510		
District	17.2301		
University	21.5410		

** p=.01

Post-Hoc Tukey Test (Table 4) showed that the level of cognitive anxiety of university were higher than district (p=.05), state (p=.05) and national (p=.05) level athletes. Furthermore, the level of cognitive anxiety of district were higher than state (p=.05) and national (p=.05), but lower than university level athletes (p=.05). In addition, the level of cognitive anxiety of state were higher than national (p=0.05), but lower than district (p=.05) and university (p=.05) level athletes. Lastly, the level of cognitive anxiety of national were lower than state (p=.05), district (p=.05) and university level athletes (p=.05).

Table 4: Post Hoc Tukey Test: Level of Cognitive Anxiety among Football Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.2210)	* (1.7320)	* (2.5641)	37
State					23
District					23
University					36

*p=.05

Level of Sport Performance

Table 5 shows the mean scores for the sport performance among the football athletes of different skills, F (3, 119) = 20.319, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was higher than those in other categories.

Table 5: Level of Sport Performance among Football Players

Skills of Athletes	Mean	F-Value	P-Value
National	25.3107	20.319**	0.000
State	23.5421		
District	18.3107		
University	15.5107		

** p=.01

Post-Hoc Tukey Test (Table 6) showed that the level of sport performance of national were higher than district (p=.05), state (p=.05) and university (p=.05) level athletes. Furthermore, the

level of sport performance state football players were higher than district (p=.05) and university (p=.05), but lower than national level athletes (p=.05). In addition, the level of sport performance of district were higher than university (p=0.05), but lower than national (p=.05) and state (p=.05) level athletes. Lastly, the level of sport performance of university were lower than state (p=.05), district (p=.05) and national level athletes (p=.05).

Table 6: Post Hoc Tukey Test: Level of Sport Performance among Football Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.3099)	* (1.4128)	* (2.1109)	37
State					23
District					23
University					36

*p=.05

Correlation of Cognitive Anxiety and Sport Performance

The correlation coefficient of -0.73 was noted between the level of cognitive anxiety and sport performance in the evaluation of 119 football players, which is significant (P < .05). In other words, the negative relationship existing between these variables is statistically significant (Table 7). Negative correlation indicates that either variables increase or decrease contradictory.

Table 7: The Relationship between the Level of Cognitive Anxiety and Sport Performance

Subject	Sport Performance
The Level of Cognitive Anxiety	-0.73** (0.000)

* * p=.05

DISCUSSION

Level of Cognitive Anxiety

The result showed that football players of university level exhibited higher cognitive anxiety level than those in state and district categories, whereas national athletes showed the lowest level of cognitive anxiety. In Malaysia, no research involving the four categories of skills has been conducted so far, therefore this research has failed to compare these with the findings of previous research. However, according to Drive theory, the present of audience for low skilled athletes, during the sport competition could increase their cognitive anxiety. Cognitive anxiety is the extent to which an athlete worries or had negative thoughts, and the negative thoughts may include fear of failure, loss of self-esteem and self-confidence. It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition. Elite athletes like national and state level, who have learned anxiety management skills, often respond to a greater degree to cognitive anxiety but return to their resting rate sooner than those athletes, who are not trained in anxiety management like district and university level. At the interview session with the football athletes it was found that most of the national athletes using coping strategies like positive self talk, thought stopping, relaxation techniques and imagery to reduce their cognitive anxiety level. In the other hand, most of the low skill athletes like district and university level

unaware and not practicing of these techniques. Therefore, the level of cognitive anxiety of district and university level athletes was very high.

Level of Sport Performance

The result showed that national football athletes obtain the highest sport performance compared state, district and university skill athletes. The main reason national athletes perform better than other skill athletes because most of them use coping strategies to reduce their cognitive anxiety. High level of cognitive anxiety is the barrier for high performances in sport. The result showed that district and university skill football athletes experienced highest level of cognitive anxiety, therefore their sport performances has been drop. Many research proved that high level of cognitive anxiety has been the barrier to deteriorate performance in sport.

Level of Cognitive Anxiety and Sport Performance

The result revealed there exists of negative correlation between cognitive anxiety and sport performance. It means the higher the level of cognitive anxiety experience by **football athletes**, the lower sport performance level. The relationship between cognitive anxiety and performance was explained best in Multidimensional Anxiety Theory. This theory explains that cognitive anxiety effect performance. The relationship between cognitive anxiety, where an athlete experiences worries, negative thoughts and fear of failure, will effect the performance (Ampofo-Boateng, 2009).

CONCLUSION

The findings of the research determined that there are differences in the level of cognitive anxiety, showed by different categories of football athletes. These differences were related to their level of skill. The results showed that elite or national football athletes exhibited lower levels of cognitive anxiety than non-elite athletes. Low cognitive anxiety levels are very important in high sport performance. This study also showed that exist of negative correlation between cognitive anxiety and performance. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Future research should identify the most prevalent sources of cognitive anxiety among different skill of football athletes. Initial evidence suggest among the sources of anxiety are fear of injury, presence of audience, past unpleasant experiences, fear of lose, negative evaluation, knowledge of the opposition team, uncertainty, playing at the opposition's place, high hope, and perceived sport events as very important. Seeking sources of cognitive anxiety should be a great value to reduce the level of anxiety. Furthermore, types of coping strategies can be used to reduce the level of cognitive anxiety among athletes much depend on the sources of anxiety.

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The Level of Cognitive Anxiety and Sport Performances among Handball Players

Vincent Parnabas[1], Julinamary Parnabas[2], Antoinette Mary Parnabas[3]

ABSTRACT:

Sports psychologists have long believed that high levels of cognitive anxiety during competition are harmful, worsening performance and even leading to dropout. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 and The Psychological Performance Inventory which had been distributed during sport between universities competition. The sample consisted of 98 handball players, including the national athletes (N=33), state athletes (N=21), district athletes (N=25) and university athletes (N= 19).The results showed that elite or national handball athletes exhibited lower levels of cognitive anxiety, $F (3, 98) = 14.541$, $p < .01$. The result also showed that the exits of negative correlation between cognitive anxiety and sport performance among handball players, $(r = -0.69; p<0.05)$. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Keywords: Cognitive, Sport Performance, Skill of players.

INTRODUCTION:

Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitative towards performance, which may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Many researches showed that winning in a competition depend on how an athlete can control their anxiety level (Humara, 2001). Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Jarvis, 2002; Martens, Vealey & Burton, 1990). The cognitive is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention -

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- (Jarvis 2002; Martens, Vealey & Burton, 1990). Contradictory, the somatic is the physiological element, which related to autonomic arousals, negative symptoms such as feelings of nervous, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in your stomach (Jarvis, 2002; Jones, 2000; Martens, Vealey & Burton, 1990).

Researchers have reported that over 50 of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). According to Hann (2000) high levels of anxiety during competition are harmful, worsening performance and even leading to dropout. Therefore, it's very important to know the level of anxiety especially the cognitive anxiety in order to take all necessary preparation to reduce it.

Catastrophe Model well described the relationship between cognitive anxiety and sport performance (Cox, 2012; Weinberg & Gould, 2011; Ampofo-Boateng, 2009). According to this theory, an achievement of best sport performance results can obtain only when there is low level of cognitive anxiety. Once an athlete experience high level of cognitive anxiety as in a situation where an athlete is worrying and it combines with increase of arousal beyond and optimal level, there will be a quick or catastrophic decrease in performance. However, since there is lack research, there has been very poor research support for the catastrophe model (Ampofo-Boateng, 2009).

Recent investigation found that male and female athletes suffering stresses resulted pressure to win, excessive anxiety, frustration conflict, irritation and fear, which significantly affected their mental or emotional health (Humphrey, Yow & Bow 2000). Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels (Heather, 2010), especially the level of cognitive anxiety. However, since lack of research on cognitive anxiety and its effect on performances, sport psychologists still failed to determine the relationship among those variables. Moreover, most of the previous research, focused on elite athletes, while ignoring less successful athletes. This was confirmed by Krane (1995) that research on competitive anxiety mainly focused on elite athletes. The extant literature also shows that there is a limited research comparing on cognitive anxiety among handball athletes of state, district and university level.

The main purpose of this study was to examine the levels of cognitive anxiety among handball players of different skill. The present study aim to determine the level of cognitive anxiety and its effect on performances between handball players of national, state, district and university level. In other words, this research sought to correlate the relationship between somatic anxiety and performance.

METHODS

The participants of this study were recruited from sport between universities. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 (CSAI-2) and 42-item The Psychological Performance Inventory, which had been distributed during sport between universities. The Psychological Performance Inventory asses seven factor of

performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 98 handball players, including the national athletes (N=33), state athletes (N=21), district athletes (N=25) and university athletes (N= 19).

RESULT
Respondents' Profile
The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 98 handball players. The overall mean age for these respondents was 21.21 years old. The age of male respondents varied from 18 to 23 years, where the mean age was 21.27 years old. The age of female players ranged from the minimum of 18 to the maximum of 23 years old. The mean age for female respondents was 19.33 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 33 respondents had participated at national, whilst 21 respondents participate at state, 25 had participated at district and 19 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=45) and Diploma (n=53) programmes.

Table 1: Respondents' Profile (n=98)

Variables	Frequency	Percentage	Mean	SD
Athletes according to rank				
National	33	33.67		
State	21	21.43		
District	25	25.51		
University	19	19.39		
Programme				
Diploma	45	45.92		
Degree	53	54.08		
Age				
Male			21.27	2.31
Female			19.33	1.97
Overall			21.21	1.38

Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .83 to .86 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=98)
Cognitive Anxiety Sports Performance	.8622 .8317

Level of Cognitive Anxiety

Table 3 shows the mean scores for the cognitive anxiety among handball athletes of different skills, $F_{(3, 98)} = 14.541$, $p < .01$. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was lower than those in other categories.

Table 3: Level of Cognitive Anxiety among Handball Players

Skills of Athletes	Mean	F-Value	P-Value
National	11.8236		
State	14.3192	14.541**	0.000
District	16.7812		
University	20.3453		

** p=.01

Post-Hoc Tukey Test (Table 4) showed that the level of cognitive anxiety of university were higher than district (p=.05), state (p=.05) and national (p=.05) level athletes. Furthermore, the level of cognitive anxiety of district were higher than state (p=.05) and national (p=.05), but lower than university level athletes (p=.05). In addition, the level of cognitive anxiety of state were higher than national (p=0.05), but lower than district (p=.05) and university (p=.05) level athletes. Lastly, the level of cognitive anxiety of national were lower than state (p=.05), district (p=.05) and university level athletes (p=.05).

Table 4: Post Hoc Tukey Test: Level of Cognitive Anxiety among Handball Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.2210)	* (1.7342)	* (2.1102)	33
State					21
District					25
University					19

*p=.05

Level of Sport Performance

Table 5 shows the mean scores for the sport performance among the handball athletes of different skills, F (3, 98) = 20.640, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was higher than those in other categories.

Table 5: Level of Sport Performance among Handball Players

Skills of Athletes	Mean	F-Value	P-Value
National	24.8901		
State	22.4892	20.640**	0.000
District	19.3342		
University	16.1439		

** p=.01

Post-Hoc Tukey Test (Table 6) showed that the level of sport performance of national were higher than district (p=.05), state (p=.05) and university (p=.05) level athletes. Furthermore, the level of sport performance state handball players were higher than district (p=.05) and university (p=.05), but lower than national level athletes (p=.05). In addition, the level of sport performance of district were higher than university (p=0.05), but lower than national (p=.05) and state (p=.05) level athletes. Lastly, the level of sport performance of university were lower than state (p=.05), district (p=.05) and national level athletes (p=.05).

Table 6: Post Hoc Tukey Test: Level of Sport Performance among Handball Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.4760)	* (1.7820)	* (2.2409)	33
State					21
District					25
University					19

*p=.05

Correlation of Cognitive Anxiety and Sport Performance

The correlation coefficient of -0.69 was noted between the level of cognitive anxiety and sport performance in the evaluation of 98 handball players, which is significant (P < .05). In other words, the negative relationship existing between these variables is statistically significant (Table 7). Negative correlation indicates that either variables increase or decrease contradictory.

Table 7: The Relationship between the Level of Cognitive Anxiety and Sport Performance

Subject	Sport Performance
The Level of Cognitive Anxiety	-0.69** (0.000)

* * p=.05

DISCUSSION

Level of Cognitive Anxiety

The result showed that handball players of university level exhibited higher cognitive anxiety level than those in state and district categories, whereas national athletes showed the lowest level of cognitive anxiety. In Malaysia, no research involving the four categories of skills has been conducted so far, therefore this research has failed to compare these with the findings of previous research. However, according to Drive theory, the present of audience for low skilled athletes, during the sport competition could increase their cognitive anxiety. Cognitive anxiety is the extent to which an athlete worries or had negative thoughts, and the negative thoughts may include fear of failure, loss of self-esteem and self-confidence. It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition. Elite athletes like national and state level, who have learned anxiety management skills, often respond to a greater degree to cognitive anxiety but return to their resting rate sooner than those athletes, who are not trained in anxiety management like district and university level. At the interview session with the football athletes it was found that most of the national athletes using coping strategies like positive self talk, thought stopping, relaxation techniques and imagery to reduce their cognitive anxiety level. In the other hand, most of the low skill athletes like district and university level unaware and not practicing of these techniques. Therefore, the level of cognitive anxiety of district and university level athletes was very high.

Level of Sport Performance

The result showed that national handball athletes obtain the highest sport performance compared state, district and university skill athletes. The main reason national athletes perform better than other skill athletes because most of them use coping strategies to reduce their cognitive anxiety. High level of cognitive anxiety is the barrier for high performances in sport. The result showed that district and university skill handball athletes experienced highest level of cognitive anxiety, therefore their sport performances has been drop. Many research proved that high level of cognitive anxiety has been the barrier to deteriorate performance in sport.

Level of Cognitive Anxiety and Sport Performance

The result revealed there exists of negative correlation between cognitive anxiety and sport performance. It means the higher the level of cognitive anxiety experience by handball athletes, the lower sport performance level. The relationship between cognitive anxiety and performance was explained best in Multidimensional Anxiety Theory. This theory explains that cognitive anxiety effect performance. The relationship between cognitive anxiety, where an athlete experiences worries, negative thoughts and fear of failure, will effect the performance (Ampofo-Boateng, 2009).

CONCLUSION

The findings of the research determined that there are differences in the level of cognitive anxiety, showed by different categories of handball athletes. These differences were related to their level of skill. The results showed that elite or national handball athletes exhibited lower levels of cognitive anxiety than non-elite athletes. Low cognitive anxiety levels are very important in high sport performance. This study also showed that exist of negative correlation

between cognitive anxiety and performance. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Future research should identify the most prevalent sources of cognitive anxiety among different skill of handball athletes. Initial evidence suggest among the sources of anxiety are fear of injury, presence of audience, past unpleasant experiences, fear of lose, negative evaluation, knowledge of the opposition team, uncertainty, playing at the opposition's place, high hope, and perceived sport events as very important. Seeking sources of cognitive anxiety should be a great value to reduce the level of anxiety. Furthermore, types of coping strategies can be used to reduce the level of cognitive anxiety among athletes much depend on the sources of anxiety.

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The Relationship between Cognitive Anxiety and Sport Performances on Basketball

Vincent Parnabas[1], Julinamary Parnabas[2], Antoinette Mary Parnabas[3]

ABSTRACT:

Sports psychologists have long believed that high levels of cognitive anxiety during competition are harmful, worsening performance and even leading to dropout. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 and The Psychological Performance Inventory which had been distributed during sport between universities competition. The sample consisted of 101 basketball players, including the national athletes (N=33), state athletes (N=30), district athletes (N=27) and university athletes (N= 11). The results showed that elite or national basketball athletes exhibited lower levels of cognitive anxiety, $F (3, 101) = 16.331$, $p < .01$. The result also showed that the exits of negative correlation between cognitive anxiety and sport performance among basketball players, ($r = -0.70$; $p<0.05$). Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Keywords: Cognitive, Sport Performance, Skill of players.

INTRODUCTION:

Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitative towards performance, which may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Many researches showed that winning in a competition depend on how an athlete can control their anxiety level (Humara, 2001). Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Jarvis, 2002; Martens, Vealey & Burton, 1990).). The cognitive is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention-

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- (Jarvis 2002; Martens, Vealey & Burton, 1990).

-(Jarvis 2002; Martens, Vealey & Burton, 1990). Contradictory, the somatic is the physiological element, which related to autonomic arousals, negative symptoms such as feelings of nervous, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in your stomach (Jarvis, 2002; Jones, 2000; Martens, Vealey & Burton, 1990).

Researchers have reported that over 50 of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). According to Hann (2000) high levels of anxiety during competition are harmful, worsening performance and even leading to dropout. Therefore, it's very important to know the level of anxiety especially the cognitive anxiety in order to take all necessary preparation to reduce it.

Catastrophe Model well described the relationship between cognitive anxiety and sport performance (Cox, 2012; Weinberg & Gould, 2011; Ampofo-Boateng, 2009). According to this theory, an achievement of best sport performance results can obtain only when there is low level of cognitive anxiety. Once an athlete experience high level of cognitive anxiety as in a situation where an athlete is worrying and it combines with increase of arousal beyond and optimal level, there will be a quick or catastrophic decrease in performance. However, since there is lack research, there has been very poor research support for the catastrophe model (Ampofo-Boateng, 2009).

Recent investigation found that male and female athletes suffering stresses resulted pressure to win, excessive anxiety, frustration conflict, irritation and fear, which significantly affected their mental or emotional health (Humphrey, Yow & Bow 2000). Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels (Heather, 2010), especially the level of cognitive anxiety. However, since lack of research on cognitive anxiety and its effect on performances, sport psychologists still failed to determine the relationship among those variables. Moreover, most of the previous research, focused on elite athletes, while ignoring less successful athletes. This was confirmed by Krane (1995) that research on competitive anxiety mainly focused on elite athletes. The extant literature also shows that there is a limited research comparing on cognitive anxiety among basketball athletes of state, district and university level.

The main purpose of this study was to examine the levels of cognitive anxiety among basketball players of different skill. The present study aim to determine the level of cognitive anxiety and its effect on performances between basketball players of national, state, district and university level. In other words, this research sought to correlate the relationship between somatic anxiety and performance.

METHODS

The participants of this study were recruited from sport between universities. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 (CSAI-2) and 42-item The Psychological Performance Inventory, which had been distributed during sport between universities. The Psychological Performance Inventory asses seven factor of performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 101 basketball players, including the national athletes (N=33), state athletes (N=30), district athletes (N=27) and university athletes (N= 11).

RESULT

Respondents' Profile

The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 101 basketball players. The overall mean age for these respondents was 22.22 years old. The age of male respondents varied from 19 to 25 years, where the mean age was 23.45 years old. The age of female players ranged from the minimum of 19 to the maximum of 24 years old. The mean age for female respondents was 21.41 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 33 respondents had participated at national, whilst 30 respondents participate at state, 27 had participated at district and 11 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=51) and Diploma (n=50) programmes.

Table 1: Respondents' Profile (n=101)

Variables	Frequency	Percentage	Mean	SD
Athletes according to rank				
National	33	32.67		
State	30	29.70		
District	27	26.73		
University	11	10.90		
Programme				
Diploma	51	50.49		
Degree	50	49.51		
Age				
Male			23.45	1.77
Female			21.41	2.01
Overall			22.22	1.53

Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .84 to .87 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=101)
Cognitive Anxiety	.8731
Sports Performance	.8422

Level of Cognitive Anxiety

Table 3 shows the mean scores for the cognitive anxiety among basketball athletes of different skills, $F (3, 101) = 16.331$, $p < .01$. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was lower than those in other categories.

Table 3:   Level of Cognitive Anxiety among **Basketball Players**

Skills of Athletes	Mean	F-Value	P-Value
National	12.0012	16.331**	0.000
State	14.0001		
District	18.4571		
University	21.1472		

** p=.01

Post-Hoc Tukey Test (Table 4) showed that the level of cognitive anxiety of university were higher than district (p=.05), state (p=.05) and national (p=.05) level athletes. Furthermore, the level of cognitive anxiety of district were higher than state (p=.05) and national (p=.05), but lower than university level athletes (p=.05). In addition, the level of cognitive anxiety of state were higher than national (p=0.05), but lower than district (p=.05) and university (p=.05) level athletes. Lastly, the level of cognitive anxiety of national were lower than state (p=.05), district (p=.05) and university level athletes (p=.05).

Table 4: Post Hoc Tukey Test: Level of Cognitive Anxiety among Basketball Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.1409)	* (1.6324)	* (2.0024)	33
State					30
District					27
University					11

*p=.05

Level of Sport Performance

Table 5 shows the mean scores for the sport performance among the basketball athletes of different skills, F (3, 101) = 21.113, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was higher than those in other categories.

Table 5: Level of Sport Performance among Basketball Players

Skills of Athletes	Mean	F-Value	P-Value
National	27.3401	21.113**	0.000
State	24.0042		
District	21.7012		
University	17.4124		

** p=.01

Post-Hoc Tukey Test (Table 6) showed that the level of sport performance of national were higher than district (p=.05), state (p=.05) and university (p=.05) level athletes. Furthermore, the level of sport performance state basketball players were higher than district (p=.05) and

university (p=.05), but lower than national level athletes (p=.05). In addition, the level of sport performance of district were higher than university (p=0.05), but lower than national (p=.05) and state (p=.05) level athletes. Lastly, the level of sport performance of university were lower than state (p=.05), district (p=.05) and national level athletes (p=.05).

Table 6: Post Hoc Tukey Test: Level of Sport Performance among Basketball Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.3321)	* (1.6409)	* (2.1579)	33
State					30
District					27
University					11

*p=.05

Correlation of Cognitive Anxiety and Sport Performance

The correlation coefficient of -0.70 was noted between the level of cognitive anxiety and sport performance in the evaluation of 101 basketball players, which is significant (P < .05). In other words, the negative relationship existing between these variables is statistically significant (Table 7). Negative correlation indicates that either variables increase or decrease contradictory.

Table 7: The Relationship between the Level of Cognitive Anxiety and Sport Performance

Subject	Sport Performance
The Level of Cognitive Anxiety	-0.70** (0.000)

* * p=.05

DISCUSSION

Level of Cognitive Anxiety

The result showed that basketball players of university level exhibited higher cognitive anxiety level than those in state and district categories, whereas national athletes showed the lowest level of cognitive anxiety. In Malaysia, no research involving the four categories of skills has been conducted so far, therefore this research has failed to compare these with the findings of previous research. However, according to Drive theory, the present of audience for low skilled athletes, during the sport competition could increase their cognitive anxiety. Cognitive anxiety is the extent to which an athlete worries or had negative thoughts, and the negative thoughts may include fear of failure, loss of self-esteem and self-confidence. It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition. Elite athletes like national and state level, who have learned anxiety management skills, often respond to a greater degree to cognitive anxiety but return to their resting rate sooner than those athletes, who are not trained in anxiety management like district and university level. At the interview session with the football athletes it was found that most of the national athletes using coping strategies like positive self talk, thought stopping, relaxation techniques and imagery to reduce their cognitive anxiety level. In the other hand, most of the low skill athletes like district and university level unaware and not practicing of these techniques. Therefore, the level of cognitive anxiety of district and university level athletes was very high.

Level of Sport Performance

The result showed that national basketball athletes obtain the highest sport performance compared state, district and university skill athletes. The main reason national athletes perform better than other skill athletes because most of them use coping strategies to reduce their cognitive anxiety. High level of cognitive anxiety is the barrier for high performances in sport. The result showed that district and university skill basketball athletes experienced highest level of cognitive anxiety, therefore their sport performances has been drop. Many research proved that high level of cognitive anxiety has been the barrier to deteriorate performance in sport.

Level of Cognitive Anxiety and Sport Performance

The result revealed there exists of negative correlation between cognitive anxiety and sport performance. It means the higher the level of cognitive anxiety experience by basketball athletes, the lower sport performance level. The relationship between cognitive anxiety and performance was explained best in Multidimensional Anxiety Theory. This theory explains that cognitive anxiety effect performance. The relationship between cognitive anxiety, where an athlete experiences worries, negative thoughts and fear of failure, will effect the performance (Ampofo-Boateng, 2009).

CONCLUSION

The findings of the research determined that there are differences in the level of cognitive anxiety, showed by different categories of basketball athletes. These differences were related to their level of skill. The results showed that elite or national basketball athletes exhibited lower levels of cognitive anxiety than non-elite athletes. Low cognitive anxiety levels are very important in high sport performance. This study also showed that exist of negative correlation between cognitive anxiety and performance. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Future research should identify the most prevalent sources of cognitive anxiety among different skill of basketball athletes. Initial evidence suggest among the sources of anxiety are fear of injury, presence of audience, past unpleasant experiences, fear of lose, negative evaluation, knowledge of the opposition team, uncertainty, playing at the opposition's place, high hope, and perceived sport events as very important. Seeking sources of cognitive anxiety should be a great value to reduce the level of anxiety. Furthermore, types of coping strategies can be used to reduce the level of cognitive anxiety among athletes much depend on the sources of anxiety.

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The Influence of Cognitive Anxiety on Sport Performances among Hockey Players

Vincent Parnabas[1], Julinamary Parnabas[2], Antoinette Mary Parnabas[3]

ABSTRACT:

Sports psychologists have long believed that high levels of cognitive anxiety during competition are harmful, worsening performance and even leading to dropout. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 and The Psychological Performance Inventory which had been distributed during sport between universities competition. The sample consisted of 67 hockey players, including the national athletes (N=24), state athletes (N=15), district athletes (N=15) and university athletes (N= 13).The results showed that elite or national hockey athletes exhibited lower levels of cognitive anxiety, F (3, 67) = 15.217, p < .01. The result also showed that the exits of negative correlation between cognitive anxiety and sport performance among hockey players, (r = -0.75; p<0.05). Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Keywords: Cognitive, Sport Performance, Skill of players.

INTRODUCTION:

Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitative towards performance, which may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Many researches showed that winning in a competition depend on how an athlete can control their anxiety level (Humara, 2001). Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Jarvis, 2002; Martens, Vealey & Burton, 1990). The cognitive is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention (Jarvis 2002; Martens, Vealey & Burton, 1990).

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Contradictory, the somatic is the physiological element, which related to autonomic arousals, negative symptoms such as feelings of nervous, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in your stomach (Jarvis, 2002; Jones, 2000; Martens, Vealey & Burton, 1990).

Researchers have reported that over 50 of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). According to Hann (2000) high levels of anxiety during competition are harmful, worsening performance and even leading to dropout. Therefore, it's very important to know the level of anxiety especially the cognitive anxiety in order to take all necessary preparation to reduce it.

Catastrophe Model well described the relationship between cognitive anxiety and sport performance (Cox, 2012; Weinberg & Gould, 2011; Ampofo-Boateng, 2009). According to this theory, an achievement of best sport performance results can obtain only when there is low level of cognitive anxiety. Once an athlete experience high level of cognitive anxiety as in a situation where an athlete is worrying and it combines with increase of arousal beyond and optimal level, there will be a quick or catastrophic decrease in performance. However, since there is lack research, there has been very poor research support for the catastrophe model (Ampofo-Boateng, 2009).

Recent investigation found that male and female athletes suffering stresses resulted pressure to win, excessive anxiety, frustration conflict, irritation and fear, which significantly affected their mental or emotional health (Humphrey, Yow & Bow 2000). Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels (Heather, 2010), especially the level of cognitive anxiety. However, since lack of research on cognitive anxiety and its effect on performances, sport psychologists still failed to determine the relationship among those variables. Moreover, most of the previous research, focused on elite athletes, while ignoring less successful athletes. This was confirmed by Krane (1995) that research on competitive anxiety mainly focused on elite athletes. The extant literature also shows that there is a limited research comparing on cognitive anxiety among hockey athletes of state, district and university level.

The main purpose of this study was to examine the levels of cognitive anxiety among hockey players of different skill. The present study aim to determine the level of cognitive anxiety and its effect on performances between hockey players of national, state, district and university level. In other words, this research sought to correlate the relationship between somatic anxiety and performance.

METHODS

The participants of this study were recruited from sport between universities. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 (CSAI-2) and 42-item The Psychological Performance Inventory, which had been distributed during sport between universities. The Psychological Performance Inventory asses seven factor of performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 67 hockey players, including the national athletes (N=24), state athletes (N=15), district athletes (N=15) and university athletes (N= 13).

RESULT

Respondents' Profile

The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 67 hockey players. The overall mean age for these respondents was 21.71 years old. The age of male respondents varied from 19 to 25 years, where the mean age was 22.21 years old. The age of female players ranged from the minimum of 19 to the maximum of 24 years old. The mean age for female respondents was 21.47 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 24 respondents had participated at national, whilst 15 respondents participate at state, 15 had participated at district and 13 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=37) and Diploma (n=30) programmes.

Table 1: Respondents' Profile (n=67)

Variables	Frequency	Percentage	Mean	SD
Athletes according to rank				
National	24	35.82		
State	15	22.39		
District	15	22.39		
University	13	19.40		
Programme				
Diploma	37	55.22		
Degree	30	44.78		
Age				
Male			22.21	2.31
Female			21.47	1.17
Overall			21.71	1.59

Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .85 to .86 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=67)
Cognitive Anxiety	.8517
Sports Performance	.8687

Level of Cognitive Anxiety

Table 3 shows the mean scores for the cognitive anxiety among hockey athletes of different skills, $F (3, 67) = 15.217$, $p < .01$. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was lower than those in other categories.

Table 3: Level of Cognitive Anxiety among Hockey Players

Skills of Athletes	Mean	F-Value	P-Value
National	13.9187		
State	15.4782	15.217**	0.000
District	17.8127		
University	19.4401		

** p=.01

Post-Hoc Tukey Test (Table 4) showed that the level of cognitive anxiety of university were higher than district (p=.05), state (p=.05) and national (p=.05) level athletes. Furthermore, the level of cognitive anxiety of district were higher than state (p=.05) and national (p=.05), but lower than university level athletes (p=.05). In addition, the level of cognitive anxiety of state were higher than national (p=0.05), but lower than district (p=.05) and university (p=.05) level athletes. Lastly, the level of cognitive anxiety of national were lower than state (p=.05), district (p=.05) and university level athletes (p=.05).

Table 4: Post Hoc Tukey Test: Level of Cognitive Anxiety among Hockey Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.1789)	* (1.5170)	* (1.9044)	24
State					15
District					15
University					13

*p=.05

Level of Sport Performance

Table 5 shows the mean scores for the sport performance among the hockey athletes of different skills, F (3, 67) = 19.557, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was higher than those in other categories.

Table 5: Level of Sport Performance among Hockey Players

Skills of Athletes	Mean	F-Value	P-Value
National	23.4481		
State	21.3320	19.557**	0.000
District	18.3200		
University	16.6781		

** p=.01

Post-Hoc Tukey Test (Table 6) showed that the level of sport performance of national were higher than district (p=.05), state (p=.05) and university (p=.05) level athletes. Furthermore, the level of sport performance state hockey players were higher than district (p=.05) and university

(p=.05), but lower than national level athletes (p=.05). In addition, the level of sport performance of district were higher than university (p=0.05), but lower than national (p=.05) and state (p=.05) level athletes. Lastly, the level of sport performance of university were lower than state (p=.05), district (p=.05) and national level athletes (p=.05).

Table 6: Post Hoc Tukey Test: Level of Sport Performance among Hockey Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.2341)	* (1.7681)	* (1.8902)	24
State					15
District					15
University					13

*p=.05

Correlation of Cognitive Anxiety and Sport Performance

The correlation coefficient of -0.75 was noted between the level of cognitive anxiety and sport performance in the evaluation of 67 hockey players, which is significant ($P < .05$). In other words, the negative relationship existing between these variables is statistically significant (Table 7). Negative correlation indicates that either variables increase or decrease contradictory.

Table 7: The Relationship between the Level of Cognitive Anxiety and Sport Performance

Subject	Sport Performance
The Level of Cognitive Anxiety	-0.75** (0.000)

* * p=.05

DISCUSSION

Level of Cognitive Anxiety

The result showed that hockey players of university level exhibited higher cognitive anxiety level than those in state and district categories, whereas national athletes showed the lowest level of cognitive anxiety. In Malaysia, no research involving the four categories of skills has been conducted so far, therefore this research has failed to compare these with the findings of previous research. However, according to Drive theory, the present of audience for low skilled athletes, during the sport competition could increase their cognitive anxiety. Cognitive anxiety is the extent to which an athlete worries or had negative thoughts, and the negative thoughts may include fear of failure, loss of self-esteem and self-confidence. It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition. Elite athletes like national and state level, who have learned anxiety management skills, often respond to a greater degree to cognitive anxiety but return to their resting rate sooner than those athletes, who are not trained in anxiety management like district and university level. At the interview session with the football athletes it was found that most of the national athletes using coping strategies like positive self talk, thought stopping, relaxation techniques and imagery to reduce their cognitive anxiety level. In the other hand, most of the low skill athletes like district and university level unaware and not practicing of these techniques. Therefore, the level of cognitive anxiety of district and university level athletes was very high.

Level of Sport Performance

The result showed that national hockey athletes obtain the highest sport performance compared state, district and university skill athletes. The main reason national athletes perform better than other skill athletes because most of them use coping strategies to reduce their cognitive anxiety. High level of cognitive anxiety is the barrier for high performances in sport. The result showed that district and university skill hockey athletes experienced highest level of cognitive anxiety, therefore their sport performances has been drop. Many research proved that high level of cognitive anxiety has been the barrier to deteriorate performance in sport.

Level of Cognitive Anxiety and Sport Performance

The result revealed there exists of negative correlation between cognitive anxiety and sport performance. It means the higher the level of cognitive anxiety experience by hockey athletes, the lower sport performance level. The relationship between cognitive anxiety and performance was explained best in Multidimensional Anxiety Theory. This theory explains that cognitive anxiety effect performance. The relationship between cognitive anxiety, where an athlete experiences worries, negative thoughts and fear of failure, will effect the performance (Ampofo-Boateng, 2009).

CONCLUSION

The findings of the research determined that there are differences in the level of cognitive anxiety, showed by different categories of hockey athletes. These differences were related to their level of skill. The results showed that elite or national hockey athletes exhibited lower levels of cognitive anxiety than non-elite athletes. Low cognitive anxiety levels are very important in high sport performance. This study also showed that exist of negative correlation between cognitive anxiety and performance. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Future research should identify the most prevalent sources of cognitive anxiety among different skill of hockey athletes. Initial evidence suggest among the sources of anxiety are fear of injury, presence of audience, past unpleasant experiences, fear of lose, negative evaluation, knowledge of the opposition team, uncertainty, playing at the opposition's place, high hope, and perceived sport events as very important. Seeking sources of cognitive anxiety should be a great value to reduce the level of anxiety. Furthermore, types of coping strategies can be used to reduce the level of cognitive anxiety among athletes much depend on the sources of anxiety.

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The Deteriorate Function of Cognitive Anxiety on

Sepak Takraw Athletes

Vincent Parnabas[1], Julinamary Parnabas[2], Antoinette Mary Parnabas[3]

ABSTRACT:

Sports psychologists have long believed that high levels of cognitive anxiety during competition are harmful, worsening performance and even leading to dropout. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 and The Psychological Performance Inventory which had been distributed during sport between universities competition. The sample consisted of 78 Sepak Takraw players, including the national athletes (N=25), state athletes (N=19), district athletes (N=20) and university athletes (N= 14). The results showed that elite or national Sepak Takraw athletes exhibited lower levels of cognitive anxiety, $F (3, 78) = 14.114$, $p < .01$. The result also showed that the exits of negative correlation between cognitive anxiety and sport performance among Sepak Takraw players, $(r = -0.77; p<0.05)$. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Keywords: Cognitive, Sport Performance, Skill of players.

INTRODUCTION:

Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitative towards performance, which may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Many researches showed that winning in a competition depend on how an athlete can control their anxiety level (Humara, 2001). Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Jarvis, 2002; Martens, Vealey & Burton, 1990). The cognitive is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention-

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-(Jarvis 2002; Martens, Vealey & Burton, 1990). Contradictory, the somatic is the physiological element, which related to autonomic arousals, negative symptoms such as feelings of nervous, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in your stomach (Jarvis, 2002; Jones, 2000; Martens, Vealey & Burton, 1990).

Researchers have reported that over 50 of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). According to Hann (2000) high levels of anxiety during competition are harmful, worsening performance and even leading to dropout. Therefore, it's very important to know the level of anxiety especially the cognitive anxiety in order to take all necessary preparation to reduce it.

Catastrophe Model well described the relationship between cognitive anxiety and sport performance (Cox, 2012; Weinberg & Gould, 2011; Ampofo-Boateng, 2009). According to this theory, an achievement of best sport performance results can obtain only when there is low level of cognitive anxiety. Once an athlete experience high level of cognitive anxiety as in a situation where an athlete is worrying and it combines with increase of arousal beyond and optimal level, there will be a quick or catastrophic decrease in performance. However, since there is lack research, there has been very poor research support for the catastrophe model (Ampofo-Boateng, 2009).

Recent investigation found that male and female athletes suffering stresses resulted pressure to win, excessive anxiety, frustration conflict, irritation and fear, which significantly affected their mental or emotional health (Humphrey, Yow & Bow 2000). Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels (Heather, 2010), especially the level of cognitive anxiety. However, since lack of research on cognitive anxiety and its effect on performances, sport psychologists still failed to determine the relationship among those variables. Moreover, most of the previous research, focused on elite athletes, while ignoring less successful athletes. This was confirmed by Krane (1995) that research on competitive anxiety mainly focused on elite athletes. The extant literature also shows that there is a limited research comparing on cognitive anxiety among Sepak Takraw athletes of state, district and university level.

The main purpose of this study was to examine the levels of cognitive anxiety among Sepak Takraw players of different skill. The present study aim to determine the level of cognitive anxiety and its effect on performances between Sepak Takraw players of national, state, district and university level. In other words, this research sought to correlate the relationship between somatic anxiety and performance.

METHODS

The participants of this study were recruited from sport between universities. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 (CSAI-2) and 42-item The Psychological Performance Inventory, which had been distributed during sport between universities. The Psychological Performance Inventory asses seven factor of performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 78 Sepak Takraw players, including the national athletes (N=25), state athletes (N=19), district athletes (N=20) and university athletes (N= 14).

RESULT

Respondents' Profile

The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 78 Sepak Takraw players. The age of male respondents varied from 18 to 25 years, where the mean age was 22.51 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 25 respondents had participated at national, whilst 19 respondents participate at state, 20 had participated at district and 14 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=42) and Diploma (n=36) programmes.

Table 1: Respondents' Profile (n=78)

Variables	Frequency	Percentage	Mean	SD
Athletes according to rank				
National	25	32.05		
State	19	24.36		
District	20	25.64		
University	14	17.95		
Programme				
Diploma	42	53.85		
Degree	36	46.15		
Age				
Male			22.51	1.81

Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .87 to .88 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=78)
Cognitive Anxiety	.8701
Sports Performance	.8860

Level of Cognitive Anxiety

Table 3 shows the mean scores for the cognitive anxiety among Sepak Takraw athletes of different skills, $F(3, 78) = 14.114$, $p < .01$. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was lower than those in other categories.

Table 3:   Level of Cognitive Anxiety among Sepak Takraw Players

Skills of Athletes	Mean	F-Value	P-Value
National	12.3317	14.114**	0.000
State	14.3704		
District	16.2100		
University	18.7701		

** p=.01

Post-Hoc Tukey Test (Table 4) showed that the level of cognitive anxiety of university were higher than district (p=.05), state (p=.05) and national (p=.05) level athletes. Furthermore, the level of cognitive anxiety of district were higher than state (p=.05) and national (p=.05), but lower than university level athletes (p=.05). In addition, the level of cognitive anxiety of state were higher than national (p=0.05), but lower than district (p=.05) and university (p=.05) level athletes. Lastly, the level of cognitive anxiety of national were lower than state (p=.05), district (p=.05) and university level athletes (p=.05).

Table 4: Post Hoc Tukey Test: Level of Cognitive Anxiety among Sepak Takraw Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.2133)	* (1.6781)	* (1.8321)	25
State					19
District					20
University					14

*p=.05

Level of Sport Performance

Table 5 shows the mean scores for the sport performance among the Sepak Takraw athletes of different skills, F (3, 78) = 18.101, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was higher than those in other categories.

Table 5: Level of Sport Performance among Sepak Takraw Players

Skills of Athletes	Mean	F-Value	P-Value
National	22.3481	18.101**	0.000
State	19.5672		
District	17.2413		
University	15.0034		

** p=.01

Post-Hoc Tukey Test (Table 6) showed that the level of sport performance of national were higher than district (p=.05), state (p=.05) and university (p=.05) level athletes. Furthermore, the level of sport performance state Sepak Takraw players were higher than district (p=.05) and university (p=.05), but lower than national level athletes (p=.05). In addition, the level of sport performance of district were higher than university (p=0.05), but lower than national (p=.05) and

state (p=.05) level athletes. Lastly, the level of sport performance of university were lower than state (p=.05), district (p=.05) and national level athletes (p=.05).

Table 6: Post Hoc Tukey Test: Level of Sport Performance among Sepak Takraw Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.3421)	* (1.6783)	* (2.1108)	25
State					19
District					20
University					14

*p=.05

Correlation of Cognitive Anxiety and Sport Performance

The correlation coefficient of -0.77 was noted between the level of cognitive anxiety and sport performance in the evaluation of 67 Sepak Takraw players, which is significant ($P < .05$). In other words, the negative relationship existing between these variables is statistically significant (Table 7). Negative correlation indicates that either variables increase or decrease contradictory.

Table 7: The Relationship between the Level of Cognitive Anxiety and Sport Performance

Subject	Sport Performance
The Level of Cognitive Anxiety	-0.77** (0.000)

** p=.05

DISCUSSION

Level of Cognitive Anxiety

The result showed that Sepak Takraw players of university level exhibited higher cognitive anxiety level than those in state and district categories, whereas national athletes showed the lowest level of cognitive anxiety. In Malaysia, no research involving the four categories of skills has been conducted so far, therefore this research has failed to compare these with the findings of previous research. However, according to Drive theory, the present of audience for low skilled athletes, during the sport competition could increase their cognitive anxiety. Cognitive anxiety is the extent to which an athlete worries or had negative thoughts, and the negative thoughts may include fear of failure, loss of self-esteem and self-confidence. It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition. Elite athletes like national and state level, who have learned anxiety management skills, often respond to a greater degree to cognitive anxiety but return to their resting rate sooner than those athletes, who are not trained in anxiety management like district and university level. At the interview session with the football athletes it was found that most of the national athletes using coping strategies like positive self talk, thought stopping, relaxation techniques and imagery to reduce their cognitive anxiety level. In the other hand, most of the low skill athletes like district and university level unaware and not practicing of these techniques. Therefore, the level of cognitive anxiety of district and university level athletes was very high.

Level of Sport Performance

The result showed that national Sepak Takraw athletes obtain the highest sport performance compared state, district and university skill athletes. The main reason national athletes perform better than other skill athletes because most of them use coping strategies to reduce their cognitive anxiety. High level of cognitive anxiety is the barrier for high performances in sport. The result showed that district and university skill Sepak Takraw athletes experienced highest level of cognitive anxiety, therefore their sport performances has been drop. Many research proved that high level of cognitive anxiety has been the barrier to deteriorate performance in sport.

Level of Cognitive Anxiety and Sport Performance

The result revealed there exists of negative correlation between cognitive anxiety and sport performance. It means the higher the level of cognitive anxiety experience by Sepak Takraw athletes, the lower sport performance level. The relationship between cognitive anxiety and performance was explained best in Multidimensional Anxiety Theory. This theory explains that cognitive anxiety effect performance. The relationship between cognitive anxiety, where an athlete experiences worries, negative thoughts and fear of failure, will effect the performance (Ampofo-Boateng, 2009).

CONCLUSION

The findings of the research determined that there are differences in the level of cognitive anxiety, showed by different categories of Sepak Takraw athletes. These differences were related to their level of skill. The results showed that elite or national Sepak Takraw athletes exhibited lower levels of cognitive anxiety than non-elite athletes. Low cognitive anxiety levels are very important in high sport performance. This study also showed that exist of negative correlation between cognitive anxiety and performance. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Future research should identify the most prevalent sources of cognitive anxiety among different skill of Sepak Takraw athletes. Initial evidence suggest among the sources of anxiety are fear of injury, presence of audience, past unpleasant experiences, fear of lose, negative evaluation, knowledge of the opposition team, uncertainty, playing at the opposition's place, high hope, and perceived sport events as very important. Seeking sources of cognitive anxiety should be a great value to reduce the level of anxiety. Furthermore, types of coping strategies can be used to reduce the level of cognitive anxiety among athletes much depend on the sources of anxiety.

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The Effect of Cognitive Anxiety on Sport Performance among Track and Field Athletes

Vincent Parnabas[1], Julinamary Parnabas[2], Antoinette Mary Parnabas[3]

ABSTRACT:

Sports psychologists have long believed that high levels of cognitive anxiety during competition are harmful, worsening performance and even leading to dropout. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 and The Psychological Performance Inventory which had been distributed during sport between universities competition. The sample consisted of 113 Track and Field players, including the national athletes (N=37), state athletes (N=38), district athletes (N=25) and university athletes (N= 13).The results showed that elite or national Track and Field athletes exhibited lower levels of cognitive anxiety, $F (3, 113) = 15.001$, $p < .01$. The result also showed that the exits of negative correlation between cognitive anxiety and sport performance among Track and Field players, ($r = -0.67$; $p<0.05$). Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Keywords: Cognitive, Sport Performance, Skill of players.

INTRODUCTION:

Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitative towards performance, which may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Many researches showed that winning in a competition depend on how an athlete can control their anxiety level (Humara, 2001). Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Jarvis, 2002; Martens, Vealey & Burton, 1990). The cognitive is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention-

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-(Jarvis 2002; Martens, Vealey & Burton, 1990). Contradictory, the somatic is the physiological element, which related to autonomic arousals, negative symptoms such as feelings of nervous, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in your stomach (Jarvis, 2002; Jones, 2000; Martens, Vealey & Burton, 1990).

Researchers have reported that over 50 of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). According to Hann (2000) high levels of anxiety during competition are harmful, worsening performance and even leading to dropout. Therefore, it's very important to know the level of anxiety especially the cognitive anxiety in order to take all necessary preparation to reduce it.

Catastrophe Model well described the relationship between cognitive anxiety and sport performance (Cox, 2012; Weinberg & Gould, 2011; Ampofo-Boateng, 2009). According to this theory, an achievement of best sport performance results can obtain only when there is low level of cognitive anxiety. Once an athlete experience high level of cognitive anxiety as in a situation where an athlete is worrying and it combines with increase of arousal beyond and optimal level, there will be a quick or catastrophic decrease in performance. However, since there is lack research, there has been very poor research support for the catastrophe model (Ampofo-Boateng, 2009).

Recent investigation found that male and female athletes suffering stresses resulted pressure to win, excessive anxiety, frustration conflict, irritation and fear, which significantly affected their mental or emotional health (Humphrey, Yow & Bow 2000). Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels (Heather, 2010), especially the level of cognitive anxiety. However, since lack of research on cognitive anxiety and its effect on performances, sport psychologists still failed to determine the relationship among those variables. Moreover, most of the previous research, focused on elite athletes, while ignoring less successful athletes. This was confirmed by Krane (1995) that research on competitive anxiety mainly focused on elite athletes. The extant literature also shows that there is a limited research comparing on cognitive anxiety among Track and Field athletes of state, district and university level.

The main purpose of this study was to examine the levels of cognitive anxiety among Track and Field players of different skill. The present study aim to determine the level of cognitive anxiety and its effect on performances between Track and Field players of national, state, district and university level. In other words, this research sought to correlate the relationship between somatic anxiety and performance.

METHODS

The participants of this study were recruited from sport between universities. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 (CSAI-2) and 42-item The Psychological Performance Inventory, which had been distributed during sport between universities. The Psychological Performance Inventory asses seven factor of performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 113 Track and Field Athletes, including the national athletes (N=37), state athletes (N=38), district athletes (N=25) and university athletes (N= 13).

RESULT

Respondents' Profile

The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 113 Track and Field Athletes. The overall mean age for these respondents was 21.45 years old. The age of male respondents varied from 18 to 27 years, where the mean age was 22.31 years old. The age of female players ranged from the minimum of 18 to the maximum of 26 years old. The mean age for female respondents was 21.18 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 37 respondents had participated at national, whilst 38 respondents participate at state, 25 had participated at district and 13 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=88) and Diploma (n=25) programmes.

Table 1: Respondents' Profile (n=113)

Variables	Frequency	Percentage	Mean	SD
Athletes according to rank				
National	37	32.74		
State	38	33.63		
District	25	22.12		
University	13	11.51		
Programme				
Diploma	25	22.12		
Degree	88	77.88		
Age				
Male			22.31	1.29
Female			21.18	1.70
Overall			21.45	1.55

Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .81 to .83 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=113)
Cognitive Anxiety	.8124
Sports Performance	.8331

Level of Cognitive Anxiety

Table 3 shows the mean scores for the cognitive anxiety among Track and Field athletes of different skills, $F(3, 113) = 15.001$, $p < .01$. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was lower than those in other categories.

Table 3: Level of Cognitive Anxiety among Track and Field Players

Skills of Athletes	Mean	F-Value	P-Value
National	11.4713		
State	13.3321	15.001**	0.000
District	16.4329		
University	20.2101		

** p=.01

Post-Hoc Tukey Test (Table 4) showed that the level of cognitive anxiety of university were higher than district (p=.05), state (p=.05) and national (p=.05) level athletes. Furthermore, the level of cognitive anxiety of district were higher than state (p=.05) and national (p=.05), but lower than university level athletes (p=.05). In addition, the level of cognitive anxiety of state were higher than national (p=0.05), but lower than district (p=.05) and university (p=.05) level athletes. Lastly, the level of cognitive anxiety of national were lower than state (p=.05), district (p=.05) and university level athletes (p=.05).

Table 4: Post Hoc Tukey Test: Level of Cognitive Anxiety among Track and Field Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.2237)	* (1.7103)	* (2.4762)	37
State					38
District					25
University					13

*p=.05

Level of Sport Performance

Table 5 shows the mean scores for the sport performance among the Track and Field athletes of different skills, F (3, 113) = 17.491, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was higher than those in other categories.

Table 5: Level of Sport Performance among Track and Field Players

Skills of Athletes	Mean	F-Value	P-Value
National	24.7798		
State	21.3701	17.491**	0.000
District	18.4231		
University	16.9033		

** p=.01

Post-Hoc Tukey Test (Table 6) showed that the level of sport performance of national were higher than district (p=.05), state (p=.05) and university (p=.05) level athletes. Furthermore, the level of sport performance state Track and Field players were higher than district (p=.05) and

university (p=.05), but lower than national level athletes (p=.05). In addition, the level of sport performance of district were higher than university (p=0.05), but lower than national (p=.05) and state (p=.05) level athletes. Lastly, the level of sport performance of university were lower than state (p=.05), district (p=.05) and national level athletes (p=.05).

Table 6: Post Hoc Tukey Test: Level of Sport Performance among Track and Field Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.3700)	* (1.7821)	* (1.9091)	37
State					38
District					25
University					13

*p=.05

Correlation of Cognitive Anxiety and Sport Performance

The correlation coefficient of -0.67 was noted between the level of cognitive anxiety and sport performance in the evaluation of 113 Track and Field players, which is significant (P < .05). In other words, the negative relationship existing between these variables is statistically significant (Table 7). Negative correlation indicates that either variables increase or decrease contradictory.

Table 7: The Relationship between the Level of Cognitive Anxiety and Sport Performance

Subject	Sport Performance
The Level of Cognitive Anxiety	-0.67** (0.000)

* * p=.05

DISCUSSION

Level of Cognitive Anxiety

The result showed that Track and Field players of university level exhibited higher cognitive anxiety level than those in state and district categories, whereas national athletes showed the lowest level of cognitive anxiety. In Malaysia, no research involving the four categories of skills has been conducted so far, therefore this research has failed to compare these with the findings of previous research. However, according to Drive theory, the present of audience for low skilled athletes, during the sport competition could increase their cognitive anxiety. Cognitive anxiety is the extent to which an athlete worries or had negative thoughts, and the negative thoughts may include fear of failure, loss of self-esteem and self-confidence. It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition. Elite athletes like national and state level, who have learned anxiety management skills, often respond to a greater degree to cognitive anxiety but return to their resting rate sooner than those athletes, who are not trained in anxiety management like district and university level. At the interview session with the football athletes it was found that most of the national athletes using coping strategies like positive self talk, thought stopping, relaxation techniques and imagery to reduce their cognitive anxiety level. In the other hand, most of the low skill athletes like district and university level unaware and not practicing of these techniques. Therefore, the level of cognitive anxiety of district and university level athletes was very high.

Level of Sport Performance

The result showed that national Track and Field athletes obtain the highest sport performance compared state, district and university skill athletes. The main reason national athletes perform better than other skill athletes because most of them use coping strategies to reduce their cognitive anxiety. High level of cognitive anxiety is the barrier for high performances in sport. The result showed that district and university skill Track and Field athletes experienced highest level of cognitive anxiety, therefore their sport performances has been drop. Many research proved that high level of cognitive anxiety has been the barrier to deteriorate performance in sport.

Level of Cognitive Anxiety and Sport Performance

The result revealed there exists of negative correlation between cognitive anxiety and sport performance. It means the higher the level of cognitive anxiety experience by **Track and Field athletes**, the lower sport performance level. The relationship between cognitive anxiety and performance was explained best in Multidimensional Anxiety Theory. This theory explains that cognitive anxiety effect performance. The relationship between cognitive anxiety, where an athlete experiences worries, negative thoughts and fear of failure, will effect the performance (Ampofo-Boateng, 2009).

CONCLUSION

The findings of the research determined that there are differences in the level of cognitive anxiety, showed by different categories of Track and Field athletes. These differences were related to their level of skill. The results showed that elite or national Track and Field athletes exhibited lower levels of cognitive anxiety than non-elite athletes. Low cognitive anxiety levels are very important in high sport performance. This study also showed that exist of negative correlation between cognitive anxiety and performance. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Future research should identify the most prevalent sources of cognitive anxiety among different skill of Track and Field athletes. Initial evidence suggest among the sources of anxiety are fear of injury, presence of audience, past unpleasant experiences, fear of lose, negative evaluation, knowledge of the opposition team, uncertainty, playing at the opposition's place, high hope, and perceived sport events as very important. Seeking sources of cognitive anxiety should be a great value to reduce the level of anxiety. Furthermore, types of coping strategies can be used to reduce the level of cognitive anxiety among athletes much depend on the sources of anxiety.

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The Level of Cognitive Anxiety and Sport Performance among Swimmers

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ABSTRACT:

Sports psychologists have long believed that high levels of cognitive anxiety during competition are harmful, worsening performance and even leading to dropout. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 and The Psychological Performance Inventory which had been distributed during sport between universities competition. The sample consisted of 69 swimmers, including the national athletes (N=17), state athletes (N=20), district athletes (N=15) and university athletes (N= 17).The results showed that elite or national swimmers exhibited lower levels of cognitive anxiety, F (3, 69) = 15.110, p < .01. The result also showed that the exits of negative correlation between cognitive anxiety and sport performance among swimmers, (r = -0.73; p<0.05). Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Keywords: Cognitive, Sport Performance, Skill of players.

INTRODUCTION:

Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitative towards performance, which may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Many researches showed that winning in a competition depend on how an athlete can control their anxiety level (Humara, 2001). Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Jarvis, 2002; Martens, Vealey & Burton, 1990). The cognitive is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention (Jarvis 2002; Martens, Vealey & Burton, 1990).

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Contradictory, the somatic is the physiological element, which related to autonomic arousals, negative symptoms such as feelings of nervous, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in your stomach (Jarvis, 2002; Jones, 2000; Martens, Vealey & Burton, 1990).

Researchers have reported that over 50 of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). According to Hann (2000) high levels of anxiety during competition are harmful, worsening performance and even leading to dropout. Therefore, it's very important to know the level of anxiety especially the cognitive anxiety in order to take all necessary preparation to reduce it.

Catastrophe Model well described the relationship between cognitive anxiety and sport performance (Cox, 2012; Weinberg & Gould, 2011; Ampofo-Boateng, 2009). According to this theory, an achievement of best sport performance results can obtain only when there is low level of cognitive anxiety. Once an athlete experience high level of cognitive anxiety as in a situation where an athlete is worrying and it combines with increase of arousal beyond and optimal level, there will be a quick or catastrophic decrease in performance. However, since there is lack research, there has been very poor research support for the catastrophe model (Ampofo-Boateng, 2009).

Recent investigation found that male and female athletes suffering stresses resulted pressure to win, excessive anxiety, frustration conflict, irritation and fear, which significantly affected their mental or emotional health (Humphrey, Yow & Bow 2000). Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels (Heather, 2010), especially the level of cognitive anxiety. However, since lack of research on cognitive anxiety and its effect on performances, sport psychologists still failed to determine the relationship among those variables. Moreover, most of the previous research, focused on elite athletes, while ignoring less successful athletes. This was confirmed by Krane (1995) that research on competitive anxiety mainly focused on elite athletes. The extant literature also shows that there is a limited research comparing on cognitive anxiety among swimmers of state, district and university level.

The main purpose of this study was to examine the levels of cognitive anxiety among swimmers of different skill. The present study aim to determine the level of cognitive anxiety and its effect on performances between swimmers of national, state, district and university level. In other words, this research sought to correlate the relationship between somatic anxiety and performance.

METHODS

The participants of this study were recruited from sport between universities. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 (CSAI-2) and 42-item The Psychological Performance Inventory, which had been distributed during sport between universities. The Psychological Performance Inventory asses seven factor of performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 69 swimmers, including the national athletes (N=17), state athletes (N=20), district athletes (N=15) and university athletes (N= 17).

RESULT

Respondents' Profile

The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 69 swimmers. The overall mean age for these respondents was 21.81 years old. The age of male respondents varied from 18 to 26 years, where the mean age was 22.95 years old. The age of female players ranged from the minimum of 18 to the maximum of 25 years old. The mean age for female respondents was 21.19 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 17 respondents had participated at national, whilst 20 respondents participate at state, 15 had participated at district and 17 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=54) and Diploma (n=15) programmes.

Table 1: Respondents' Profile (n=69)

Variables	Frequency	Percentage	Mean	SD
Athletes according to rank				
National	17	24.64		
State	20	28.98		
District	15	21.74		
University	17	24.64		
Programme				
Diploma	15	21.74		
Degree	54	78.26		
Age				
Male			22.95	1.79
Female			21.19	1.98
Overall			21.81	1.49

Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .85 to .86 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=69)
Cognitive Anxiety	.8749
Sports Performance	.8610

Level of Cognitive Anxiety

Table 3 shows the mean scores for the cognitive anxiety among swimmers of different skills, F (3, 69) = 15.110, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was lower than those in other categories.

Table 3:   Level of Cognitive Anxiety among **Swimmers**

Skills of Athletes	Mean	F-Value	P-Value
National	11.3421		
State	13.4892	15.110**	0.000
District	16.3472		
University	19.0421		

** p=.01

Post-Hoc Tukey Test (Table 4) showed that the level of cognitive anxiety of university were higher than district (p=.05), state (p=.05) and national (p=.05) level athletes. Furthermore, the level of cognitive anxiety of district were higher than state (p=.05) and national (p=.05), but lower than university level athletes (p=.05). In addition, the level of cognitive anxiety of state were higher than national (p=0.05), but lower than district (p=.05) and university (p=.05) level athletes. Lastly, the level of cognitive anxiety of national were lower than state (p=.05), district (p=.05) and university level athletes (p=.05).

Table 4: Post Hoc Tukey Test: Level of Cognitive Anxiety among Swimmers

Skill of Athletes	National	State	Distict	University	N
National		* (1.2104)	* (1.7853)	* (1.9332)	17
State					20
District					15
University					17

*p=.05

Level of Sport Performance

Table 5 shows the mean scores for the sport performance among the swimmers of different skills, F (3, 69) = 20.708, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was higher than those in other categories.

Table 5: Level of Sport Performance among Swimmers

Skills of Athletes	Mean	F-Value	P-Value
National	23.8120		
State	20.0012	20.708**	0.000
District	17.8139		
University	14.1275		

** p=.01

Post-Hoc Tukey Test (Table 6) showed that the level of sport performance of national were higher than district (p=.05), state (p=.05) and university (p=.05) level athletes. Furthermore, the level of sport performance state swimmers were higher than district (p=.05) and university (p=.05), but lower than national level athletes (p=.05). In addition, the level of sport performance

of district were higher than university (p=0.05), but lower than national (p=.05) and state (p=.05) level athletes. Lastly, the level of sport performance of university were lower than state (p=.05), district (p=.05) and national level athletes (p=.05).

Table 6: Post Hoc Tukey Test: Level of Sport Performance among Swimmers

Skill of Athletes	National	State	Distict	University	N
National		* (1.2675)	* (1.7834)	* (2.6781)	17
State					20
District					15
University					17

*p=.05

Correlation of Cognitive Anxiety and Sport Performance

The correlation coefficient of -0.73 was noted between the level of cognitive anxiety and sport performance in the evaluation of 69 swimmers, which is significant (P < .05). In other words, the negative relationship existing between these variables is statistically significant (Table 7). Negative correlation indicates that either variables increase or decrease contradictory.

Table 7: The Relationship between the Level of Cognitive Anxiety and Sport Performance

Subject	Sport Performance
The Level of Cognitive Anxiety	-0.73** (0.000)

* * p=.05

DISCUSSION

Level of Cognitive Anxiety

The result showed that swimmers of university level exhibited higher cognitive anxiety level than those in state and district categories, whereas national athletes showed the lowest level of cognitive anxiety. In Malaysia, no research involving the four categories of skills has been conducted so far, therefore this research has failed to compare these with the findings of previous research. However, according to Drive theory, the present of audience for low skilled athletes, during the sport competition could increase their cognitive anxiety. Cognitive anxiety is the extent to which an athlete worries or had negative thoughts, and the negative thoughts may include fear of failure, loss of self-esteem and self-confidence. It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition. Elite athletes like national and state level, who have learned anxiety management skills, often respond to a greater degree to cognitive anxiety but return to their resting rate sooner than those athletes, who are not trained in anxiety management like district and university level. At the interview session with the football athletes it was found that most of the national athletes using coping strategies like positive self talk, thought stopping, relaxation techniques and imagery to reduce their cognitive anxiety level. In the other hand, most of the low skill athletes like district and university level unaware and not practicing of these techniques. Therefore, the level of cognitive anxiety of district and university level athletes was very high.

Level of Sport Performance

The result showed that national swimmers obtain the highest sport performance compared state, district and university skill athletes. The main reason national athletes perform better than other skill athletes because most of them use coping strategies to reduce their cognitive anxiety. High level of cognitive anxiety is the barrier for high performances in sport. The result showed that district and university skill swimmers experienced highest level of cognitive anxiety, therefore their sport performances has been drop. Many research proved that high level of cognitive anxiety has been the barrier to deteriorate performance in sport.

Level of Cognitive Anxiety and Sport Performance

The result revealed there exists of negative correlation between cognitive anxiety and sport performance. It means the higher the level of cognitive anxiety experience by swimmers, the lower sport performance level. The relationship between cognitive anxiety and performance was explained best in Multidimensional Anxiety Theory. This theory explains that cognitive anxiety effect performance. The relationship between cognitive anxiety, where an athlete experiences worries, negative thoughts and fear of failure, will effect the performance (Ampofo-Boateng, 2009).

CONCLUSION

The findings of the research determined that there are differences in the level of cognitive anxiety, showed by different categories of swimmers. These differences were related to their level of skill. The results showed that elite or national swimmers exhibited lower levels of cognitive anxiety than non-elite athletes. Low cognitive anxiety levels are very important in high sport performance. This study also showed that exist of negative correlation between cognitive anxiety and performance. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Future research should identify the most prevalent sources of cognitive anxiety among different skill of swimmers. Initial evidence suggest among the sources of anxiety are fear of injury, presence of audience, past unpleasant experiences, fear of lose, negative evaluation, knowledge of the opposition team, uncertainty, playing at the opposition's place, high hope, and perceived sport events as very important. Seeking sources of cognitive anxiety should be a great value to reduce the level of anxiety. Furthermore, types of coping strategies can be used to reduce the level of cognitive anxiety among athletes much depend on the sources of anxiety.

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The Influence of Cognitive Anxiety on Sport Performance among Taekwondo Athletes

Vincent Parnabas[1], Julinamary Parnabas[2], Antoinette Mary Parnabas[3]

ABSTRACT:

Sports psychologists have long believed that high levels of cognitive anxiety during competition are harmful, worsening performance and even leading to dropout. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 and The Psychological Performance Inventory which had been distributed during sport between universities competition. The sample consisted of 78 Taekwondo players, including the national athletes (N=22), state athletes (N=23), district athletes (N=18) and university athletes (N= 15).The results showed that elite or national Taekwondo athletes exhibited lower levels of cognitive anxiety, F (3, 78) = 14.232, p < .01. The result also showed that the exits of negative correlation between cognitive anxiety and sport performance among Taekwondo players, (r = -0.71; p<0.05). Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Keywords: Cognitive, Sport Performance, Skill of players.

INTRODUCTION:

Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitative towards performance, which may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Many researches showed that winning in a competition depend on how an athlete can control their anxiety level (Humara, 2001). Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Jarvis, 2002; Martens, Vealey & Burton, 1990). The cognitive is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention (Jarvis 2002; Martens, Vealey & Burton, 1990).

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Contradictory, the somatic is the physiological element, which related to autonomic arousals, negative symptoms such as feelings of nervous, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in your stomach (Jarvis, 2002; Jones, 2000; Martens, Vealey & Burton, 1990).

Researchers have reported that over 50 of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). According to Hann (2000) high levels of anxiety during competition are harmful, worsening performance and even leading to dropout. Therefore, it's very important to know the level of anxiety especially the cognitive anxiety in order to take all necessary preparation to reduce it.

Catastrophe Model well described the relationship between cognitive anxiety and sport performance (Cox, 2012; Weinberg & Gould, 2011; Ampofo-Boateng, 2009). According to this theory, an achievement of best sport performance results can obtain only when there is low level of cognitive anxiety. Once an athlete experience high level of cognitive anxiety as in a situation where an athlete is worrying and it combines with increase of arousal beyond and optimal level, there will be a quick or catastrophic decrease in performance. However, since there is lack research, there has been very poor research support for the catastrophe model (Ampofo-Boateng, 2009).

Recent investigation found that male and female athletes suffering stresses resulted pressure to win, excessive anxiety, frustration conflict, irritation and fear, which significantly affected their mental or emotional health (Humphrey, Yow & Bow 2000). Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels (Heather, 2010), especially the level of cognitive anxiety. However, since lack of research on cognitive anxiety and its effect on performances, sport psychologists still failed to determine the relationship among those variables. Moreover, most of the previous research, focused on elite athletes, while ignoring less successful athletes. This was confirmed by Krane (1995) that research on competitive anxiety mainly focused on elite athletes. The extant literature also shows that there is a limited research comparing on cognitive anxiety among Taekwondo athletes of state, district and university level.

The main purpose of this study was to examine the levels of cognitive anxiety among Taekwondo players of different skill. The present study aim to determine the level of cognitive anxiety and its effect on performances between Taekwondo players of national, state, district and university level. In other words, this research sought to correlate the relationship between somatic anxiety and performance.

METHODS

The participants of this study were recruited from sport between universities. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 (CSAI-2) and 42-item The Psychological Performance Inventory, which had been distributed during sport between universities. The Psychological Performance Inventory asses seven factor of performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 78 Taekwondo athletes, including the national athletes (N=22), state athletes (N=23), district athletes (N=18) and university athletes (N= 15).

RESULT

Respondents' Profile

The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 78 Taekwondo athletes. The overall mean age for these respondents was 22.70 years old. The age of male respondents varied from 18 to 27 years, where the mean age was 23.47 years old. The age of female players ranged from the minimum of 18 to the maximum of 25 years old. The mean age for female respondents was 22.26 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 22 respondents had participated at national, whilst 23 respondents participate at state, 18 had participated at district and 15 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=56) and Diploma (n=22) programmes.

Table 1: Respondents' Profile (n=78)

Variables	Frequency	Percentage	Mean	SD
Athletes according to rank				
National	22	28.20		
State	23	29.49		
District	18	23.08		
University	15	19.23		
Programme				
Diploma	22	28.21		
Degree	56	71.79		
Age				
Male			23.47	2.45
Female			22.26	2.00
Overall			22.70	1.89

Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .83 to .85 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=78)
Cognitive Anxiety	.8337
Sports Performance	.8544

Level of Cognitive Anxiety

Table 3 shows the mean scores for the cognitive anxiety among Taekwondo athletes of different skills, F (3, 78) = 14.232, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was lower than those in other categories.

Table 3:   Level of Cognitive Anxiety among Taekwondo Players

Skills of Athletes	Mean	F-Value	P-Value
National	12.5174	14.232**	0.000
State	14.0027		
District	17.3402		
University	19.1142		

** p=.01

Post-Hoc Tukey Test (Table 4) showed that the level of cognitive anxiety of university were higher than district (p=.05), state (p=.05) and national (p=.05) level athletes. Furthermore, the level of cognitive anxiety of district were higher than state (p=.05) and national (p=.05), but lower than university level athletes (p=.05). In addition, the level of cognitive anxiety of state were higher than national (p=0.05), but lower than district (p=.05) and university (p=.05) level athletes. Lastly, the level of cognitive anxiety of national were lower than state (p=.05), district (p=.05) and university level athletes (p=.05).

Table 4: Post Hoc Tukey Test: Level of Cognitive Anxiety among Taekwondo Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.3408)	* (1.6712)	* (1.8907)	22
State					23
District					18
University					15

*p=.05

Level of Sport Performance

Table 5 shows the mean scores for the sport performance among the Taekwondo athletes of different skills, F (3, 78) = 17.221, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was higher than those in other categories.

Table 5: Level of Sport Performance among Taekwondo Players

Skills of Athletes	Mean	F-Value	P-Value
National	21.8120	17.221**	0.000
State	19.4191		
District	16.0372		
University	14.1104		

** p=.01

Post-Hoc Tukey Test (Table 6) showed that the level of sport performance of national were higher than district (p=.05), state (p=.05) and university (p=.05) level athletes. Furthermore, the level of sport performance state Taekwondo players were higher than district (p=.05) and university (p=.05), but lower than national level athletes (p=.05). In addition, the level of sport

performance of district were higher than university (p=0.05), but lower than national (p=.05) and state (p=.05) level athletes. Lastly, the level of sport performance of university were lower than state (p=.05), district (p=.05) and national level athletes (p=.05).

Table 6: Post Hoc Tukey Test: Level of Sport Performance among Taekwondo Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.2109)	* (1.7091)	* (1.8921)	22
State					23
District					18
University					15

*p=.05

Correlation of Cognitive Anxiety and Sport Performance

The correlation coefficient of -0.71 was noted between the level of cognitive anxiety and sport performance in the evaluation of 78 Taekwondo players, which is significant (P < .05). In other words, the negative relationship existing between these variables is statistically significant (Table 7). Negative correlation indicates that either variables increase or decrease contradictory.

Table 7: The Relationship between the Level of Cognitive Anxiety and Sport Performance

Subject	Sport Performance
The Level of Cognitive Anxiety	-0.71** (0.000)

* * p=.05

DISCUSSION

Level of Cognitive Anxiety

The result showed that Taekwondo players of university level exhibited higher cognitive anxiety level than those in state and district categories, whereas national athletes showed the lowest level of cognitive anxiety. In Malaysia, no research involving the four categories of skills has been conducted so far, therefore this research has failed to compare these with the findings of previous research. However, according to Drive theory, the present of audience for low skilled athletes, during the sport competition could increase their cognitive anxiety. Cognitive anxiety is the extent to which an athlete worries or had negative thoughts, and the negative thoughts may include fear of failure, loss of self-esteem and self-confidence. It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition. Elite athletes like national and state level, who have learned anxiety management skills, often respond to a greater degree to cognitive anxiety but return to their resting rate sooner than those athletes, who are not trained in anxiety management like district and university level. At the interview session with the football athletes it was found that most of the national athletes using coping strategies like positive self talk, thought stopping, relaxation techniques and imagery to reduce their cognitive anxiety level. In the other hand, most of the low skill athletes like district and university level unaware and not practicing of these techniques. Therefore, the level of cognitive anxiety of district and university level athletes was very high.

Level of Sport Performance

The result showed that national Taekwondo athletes obtain the highest sport performance compared state, district and university skill athletes. The main reason national athletes perform better than other skill athletes because most of them use coping strategies to reduce their cognitive anxiety. High level of cognitive anxiety is the barrier for high performances in sport. The result showed that district and university skill Taekwondo athletes experienced highest level of cognitive anxiety, therefore their sport performances has been drop. Many research proved that high level of cognitive anxiety has been the barrier to deteriorate performance in sport.

Level of Cognitive Anxiety and Sport Performance

The result revealed there exists of negative correlation between cognitive anxiety and sport performance. It means the higher the level of cognitive anxiety experience by Taekwondo athletes, the lower sport performance level. The relationship between cognitive anxiety and performance was explained best in Multidimensional Anxiety Theory. This theory explains that cognitive anxiety effect performance. The relationship between cognitive anxiety, where an athlete experiences worries, negative thoughts and fear of failure, will effect the performance (Ampofo-Boateng, 2009).

CONCLUSION

The findings of the research determined that there are differences in the level of cognitive anxiety, showed by different categories of Taekwondo athletes. These differences were related to their level of skill. The results showed that elite or national Taekwondo athletes exhibited lower levels of cognitive anxiety than non-elite athletes. Low cognitive anxiety levels are very important in high sport performance. This study also showed that exist of negative correlation between cognitive anxiety and performance. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Future research should identify the most prevalent sources of cognitive anxiety among different skill of Taekwondo athletes. Initial evidence suggest among the sources of anxiety are fear of injury, presence of audience, past unpleasant experiences, fear of lose, negative evaluation, knowledge of the opposition team, uncertainty, playing at the opposition's place, high hope, and perceived sport events as very important. Seeking sources of cognitive anxiety should be a great value to reduce the level of anxiety. Furthermore, types of coping strategies can be used to reduce the level of cognitive anxiety among athletes much depend on the sources of anxiety.

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The Deteriorate Function of Cognitive Anxiety on Rowing Athletes

Vincent Parnabas[1], Julinamary Parnabas[2], Antoinette Mary Parnabas[3]

ABSTRACT:

Sports psychologists have long believed that high levels of cognitive anxiety during competition are harmful, worsening performance and even leading to dropout. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 and The Psychological Performance Inventory which had been distributed during sport between universities competition. The sample consisted of 77 Rowing players, including the national athletes (N=27), state athletes (N=17), district athletes (N=18) and university athletes (N= 15).The results showed that elite or national Rowing athletes exhibited lower levels of cognitive anxiety, $F (3, 77) = 13.771$, $p < .01$. The result also showed that the exits of negative correlation between cognitive anxiety and sport performance among Rowing players, $(r = -0.75; p<0.05)$. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Keywords: Cognitive, Sport Performance, Skill of players.

INTRODUCTION:

Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitative towards performance, which may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Many researches showed that winning in a competition depend on how an athlete can control their anxiety level (Humara, 2001). Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Jarvis, 2002; Martens, Vealey & Burton, 1990). The cognitive is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention (Jarvis 2002; Martens, Vealey & Burton, 1990). Contradictory, the somatic is the physiological element, which related to autonomic arousals, negative symptoms such as feelings of nervous, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in your stomach (Jarvis, 2002; Jones, 2000; Martens, Vealey & Burton, 1990).

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Researchers have reported that over 50 of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). According to Hann (2000) high levels of anxiety during competition are harmful, worsening performance and even leading to dropout. Therefore, it's very important to know the level of anxiety especially the cognitive anxiety in order to take all necessary preparation to reduce it.

Catastrophe Model well described the relationship between cognitive anxiety and sport performance (Cox, 2012; Weinberg & Gould, 2011; Ampofo-Boateng, 2009). According to this theory, an achievement of best sport performance results can obtain only when there is low level of cognitive anxiety. Once an athlete experience high level of cognitive anxiety as in a situation where an athlete is worrying and it combines with increase of arousal beyond and optimal level, there will be a quick or catastrophic decrease in performance. However, since there is lack research, there has been very poor research support for the catastrophe model (Ampofo-Boateng, 2009).

Recent investigation found that male and female athletes suffering stresses resulted pressure to win, excessive anxiety, frustration conflict, irritation and fear, which significantly affected their mental or emotional health (Humphrey, Yow & Bow 2000). Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels (Heather, 2010), especially the level of cognitive anxiety. However, since lack of research on cognitive anxiety and its effect on performances, sport psychologists still failed to determine the relationship among those variables. Moreover, most of the previous research, focused on elite athletes, while ignoring less successful athletes. This was confirmed by Krane (1995) that research on competitive anxiety mainly focused on elite athletes. The extant literature also shows that there is a limited research comparing on cognitive anxiety among Rowing athletes of state, district and university level.

The main purpose of this study was to examine the levels of cognitive anxiety among Rowing players of different skill. The present study aim to determine the level of cognitive anxiety and its effect on performances between Rowing players of national, state, district and university level. In other words, this research sought to correlate the relationship between somatic anxiety and performance.

METHODS

The participants of this study were recruited from sport between universities. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 (CSAI-2) and 42-item The Psychological Performance Inventory, which had been distributed during sport between universities. The Psychological Performance Inventory asses seven factor of performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 77 Rowing athletes, including the national athletes (N=27), state athletes (N=17), district athletes (N=18) and university athletes (N= 15).

RESULT

Respondents' Profile

The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 77 Rowing athletes. The overall mean age for these respondents was 22.49 years old. The age of male respondents varied from 18 to 25 years, where the mean age was 22.01 years old. The age of female players ranged from the minimum of 18 to the maximum of 24 years old. The mean age for female respondents was 22.49 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 27 respondents had participated at national, whilst 17 respondents participate at state, 18 had participated at district and 15 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=46) and Diploma (n=31) programmes.

Table 1: Respondents' Profile (n=77)

Variables	Frequency	Percentage	Mean	SD
Athletes according to rank				
National	27	35.06		
State	17	22.08		
District	18	23.38		
University	15	19.48		
Programme				
Diploma	31	40.26		
Degree	46	59.74		
Age				
Male			22.01	1.29
Female			21.17	1.88
Overall			22.49	1.45

Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .85 to .87 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=77)
Cognitive Anxiety Sports Performance	.8529 .8711

Level of Cognitive Anxiety

Table 3 shows the mean scores for the cognitive anxiety among Rowing athletes of different skills, F (3, 77) = 13.771, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was lower than those in other categories.

Table 3:   Level of Cognitive Anxiety among Rowing Players

Skills of Athletes	Mean	F-Value	P-Value
National	11.3104		
State	13.9734	13.771**	0.000
District	15.1249		
University	18.1142		

   ** p=.01

Post-Hoc Tukey Test (Table 4) showed that the level of cognitive anxiety of university were higher than district (p=.05), state (p=.05) and national (p=.05) level athletes. Furthermore, the level of cognitive anxiety of district were higher than state (p=.05) and national (p=.05), but lower than university level athletes (p=.05). In addition, the level of cognitive anxiety of state were higher than national (p=0.05), but lower than district (p=.05) and university (p=.05) level athletes. Lastly, the level of cognitive anxiety of national were lower than state (p=.05), district (p=.05) and university level athletes (p=.05).

Table 4: Post Hoc Tukey Test: Level of Cognitive Anxiety among Rowing Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.2109)	* (1.5400)	* (1.8176)	27
State					17
District					18
University					15

*p=.05

Level of Sport Performance

Table 5 shows the mean scores for the sport performance among the **Rowing athletes** of different skills, F (3, 77) = 18.110, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was higher than those in other categories.

Table 5: Level of Sport Performance among Rowing Players

Skills of Athletes	Mean	F-Value	P-Value
National	23.0975		
State	20.8917	18.110**	0.000
District	18.2138		
University	15.2363		

** p=.01

Post-Hoc Tukey Test (Table 6) showed that the level of sport performance of national were higher than district (p=.05), state (p=.05) and university (p=.05) level athletes. Furthermore, the level of sport performance state Rowing players were higher than district (p=.05) and university (p=.05), but lower than national level athletes (p=.05). In addition, the level of sport performance of district were higher than university (p=0.05), but lower than national (p=.05) and state (p=.05) level athletes. Lastly, the level of sport performance of university were lower than state (p=.05), district (p=.05) and national level athletes (p=.05).

Table 6: Post Hoc Tukey Test: Level of Sport Performance among Rowing Players

Skill of Athletes	National	State	Distict	University	N
National		* (1.3131)	* (1.8201)	* (2.8312)	27
State					17
District					18
University					15

*p=.05

Correlation of Cognitive Anxiety and Sport Performance

The correlation coefficient of -0.75 was noted between the level of cognitive anxiety and sport performance in the evaluation of 77 Rowing players, which is significant (P < .05). In other words, the negative relationship existing between these variables is statistically significant (Table 7). Negative correlation indicates that either variables increase or decrease contradictory.

Table 7: The Relationship between the Level of Cognitive Anxiety and Sport Performance

Subject	Sport Performance
The Level of Cognitive Anxiety	-0.75** (0.000)

<center>* * p=.05</center>

DISCUSSION

Level of Cognitive Anxiety

The result showed that Rowing players of university level exhibited higher cognitive anxiety level than those in state and district categories, whereas national athletes showed the lowest level of cognitive anxiety. In Malaysia, no research involving the four categories of skills has been conducted so far, therefore this research has failed to compare these with the findings of previous research. However, according to Drive theory, the present of audience for low skilled athletes, during the sport competition could increase their cognitive anxiety. Cognitive anxiety is the extent to which an athlete worries or had negative thoughts, and the negative thoughts may include fear of failure, loss of self-esteem and self-confidence. It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition. Elite athletes like national and state level, who have learned anxiety management skills, often respond to a greater degree to cognitive anxiety but return to their resting rate sooner than those athletes, who are not trained in anxiety management like district and university level. At the interview session with the football athletes it was found that most of the national athletes using coping strategies like positive self talk, thought stopping, relaxation techniques and imagery to reduce their cognitive anxiety level. In the other hand, most of the low skill athletes like district and university level unaware and not practicing of these techniques. Therefore, the level of cognitive anxiety of district and university level athletes was very high.

Level of Sport Performance

The result showed that national Rowing athletes obtain the highest sport performance compared state, district and university skill athletes. The main reason national athletes perform better than other skill athletes because most of them use coping strategies to reduce their cognitive anxiety. High level of cognitive anxiety is the barrier for high performances in sport. The result showed that district and university skill Rowing athletes experienced highest level of cognitive anxiety, therefore their sport performances has been drop. Many research proved that high level of cognitive anxiety has been the barrier to deteriorate performance in sport.

Level of Cognitive Anxiety and Sport Performance

The result revealed there exists of negative correlation between cognitive anxiety and sport performance. It means the higher the level of cognitive anxiety experience by Rowing athletes, the lower sport performance level. The relationship between cognitive anxiety and performance was explained best in Multidimensional Anxiety Theory. This theory explains that cognitive anxiety effect performance. The relationship between cognitive anxiety, where an athlete experiences worries, negative thoughts and fear of failure, will effect the performance (Ampofo-Boateng, 2009).

CONCLUSION

The findings of the research determined that there are differences in the level of cognitive anxiety, showed by different categories of Rowing athletes. These differences were related to their level of skill. The results showed that elite or national Rowing athletes exhibited lower levels of cognitive anxiety than non-elite athletes. Low cognitive anxiety levels are very important in high sport performance. This study also showed that exist of negative correlation between cognitive anxiety and performance. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Future research should identify the most prevalent sources of cognitive anxiety among different skill of **Rowing athletes**. Initial evidence suggest among the sources of anxiety are fear of injury, presence of audience, past unpleasant experiences, fear of lose, negative evaluation, knowledge of the opposition team, uncertainty, playing at the opposition's place, high hope, and perceived sport events as very important. Seeking sources of cognitive anxiety should be a great value to reduce the level of anxiety. Furthermore, types of coping strategies can be used to reduce the level of cognitive anxiety among athletes much depend on the sources of anxiety.

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The Relationship between Cognitive Anxiety and Sport Performance on Running Athletes

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ABSTRACT:

Sports psychologists have long believed that high levels of cognitive anxiety during competition are harmful, worsening performance and even leading to dropout. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 and The Psychological Performance Inventory which had been distributed during sport between universities competition. The sample consisted of 107 runners, including the national athletes (N=33), state athletes (N=21), district athletes (N=35) and university athletes (N= 18).The results showed that elite or national Running athletes exhibited lower levels of cognitive anxiety, $F (3, 77) = 15.247$, $p < .01$. The result also showed that the exits of negative correlation between cognitive anxiety and sport performance among runners, ($r = -0.72$; $p<0.05$). Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Keywords: Cognitive, Sport Performance, Skill of players.

INTRODUCTION:

Anxiety, as a negative emotional, affect perceptions in sport competitions, where a large majority of athletes consider anxiety to be debilitative towards performance, which may result in decreases in performance (Weinberg & Gould, 2011; Raglin & Hanin, 2000). Many researches showed that winning in a competition depend on how an athlete can control their anxiety level (Humara, 2001). Anxiety consists of two subcomponents: cognitive and somatic anxiety, which influence performance (Jarvis, 2002; Martens, Vealey & Burton, 1990). The cognitive is the mental component, which characterized by negative expectations about success or self-evaluation, negative self-talk, worries about performance, images of failure, inability to concentrate, and disrupted attention (Jarvis 2002; Martens, Vealey & Burton, 1990).

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Contradictory, the somatic is the physiological element, which related to autonomic arousals, negative symptoms such as feelings of nervous, high blood pressure, dry throat, muscular tension, rapid heart rate, sweaty palms and butterflies in your stomach (Jarvis, 2002; Jones, 2000; Martens, Vealey & Burton, 1990).

Researchers have reported that over 50 of consultations among athletes at an Olympic festival were related to stress or anxiety problems (Murphy, 1988). According to Hann (2000) high levels of anxiety during competition are harmful, worsening performance and even leading to dropout. Therefore, it's very important to know the level of anxiety especially the cognitive anxiety in order to take all necessary preparation to reduce it.

Catastrophe Model well described the relationship between cognitive anxiety and sport performance (Cox, 2012; Weinberg & Gould, 2011; Ampofo-Boateng, 2009). According to this theory, an achievement of best sport performance results can obtain only when there is low level of cognitive anxiety. Once an athlete experience high level of cognitive anxiety as in a situation where an athlete is worrying and it combines with increase of arousal beyond and optimal level, there will be a quick or catastrophic decrease in performance. However, since there is lack research, there has been very poor research support for the catastrophe model (Ampofo-Boateng, 2009).

Recent investigation found that male and female athletes suffering stresses resulted pressure to win, excessive anxiety, frustration conflict, irritation and fear, which significantly affected their mental or emotional health (Humphrey, Yow & Bow 2000). Heavy playing schedules, competition for team places, the media and fans as well as the pressure to win trophies all play a part in players developing high stress and anxiety levels (Heather, 2010), especially the level of cognitive anxiety. However, since lack of research on cognitive anxiety and its effect on performances, sport psychologists still failed to determine the relationship among those variables. Moreover, most of the previous research, focused on elite athletes, while ignoring less successful athletes. This was confirmed by Krane (1995) that research on competitive anxiety mainly focused on elite athletes. The extant literature also shows that there is a limited research comparing on cognitive anxiety among runners athletes of state, district and university level.

The main purpose of this study was to examine the levels of cognitive anxiety among Runners of different skill. The present study aim to determine the level of cognitive anxiety and its effect on performances between Runners of national, state, district and university level. In other words, this research sought to correlate the relationship between somatic anxiety and performance.

METHODS

The participants of this study were recruited from sport between universities. The instrument used for the study comprised of a 27-item Competitive State Anxiety Inventory–2 (CSAI-2) and 42-item The Psychological Performance Inventory, which had been distributed during sport between universities. The Psychological Performance Inventory asses seven factor of

performance: Self Confident, Negative Energy, Attention Control, Visualization and Imagery, Motivation, Positive Energy Control and Attitude Control.

The sample consisted of 107 runners, including the national athletes (N=33), state athletes (N=21), district athletes (N=35) and university athletes (N= 18).

RESULT

Respondents' Profile

The respondents' profile described their ranking, ethnic and age. Table 1 shows the overall results of the respondents' profile for 107 Running athletes. The overall mean age for these respondents was 22.09 years old. The age of male respondents varied from 18 to 26 years, where the mean age was 23.79 years old. The age of female players ranged from the minimum of 18 to the maximum of 25 years old. The mean age for female respondents was 21.88 years old.

The variable "rank which is gathered through this study is categorized into four levels namely, national, state, district and university. The result showed that 33 respondents had participated at national, whilst 21 respondents participate at state, 35 had participated at district and 18 respondents participated at the university level. Majority of the respondents, were undergraduates for Degree (n=89) and Diploma (n=18) programmes.

Table 1: Respondents' Profile (n=107)

Variables	Frequency	Percentage	Mean	SD
Athletes according to rank				
National	33	30.84		
State	21	19.63		
District	35	32.71		
University	18	16.82		
Programme				
Diploma	18	16.82		
Degree	89	83.18		
Age				
Male			23.79	2.11
Female			21.88	1.71
Overall			22.09	1.87

Cronbach Reliability Coefficients

In this study, Cronbach alpha coefficients were found relatively high, ranging from .86 to .88 (Table 2).

Table 2: Cronbach Reliability Coefficients

Questionnaire	Cronbach's Alpha (n=107)
Cognitive Anxiety Sports Performance	.8831 .8679

Level of Cognitive Anxiety

Table 3 shows the mean scores for the cognitive anxiety among runners of different skills, $F_{(3, 107)} = 15.247$, $p < .01$. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was lower than those in other categories.

Table 3: Level of Cognitive Anxiety among Runners

Skills of Athletes	Mean	F-Value	P-Value
National	12.4123	15.247**	0.000
State	14.7328		
District	17.3876		
University	21.4512		

** p=.01

Post-Hoc Tukey Test (Table 4) showed that the level of cognitive anxiety of university were higher than district (p=.05), state (p=.05) and national (p=.05) level athletes. Furthermore, the level of cognitive anxiety of district were higher than state (p=.05) and national (p=.05), but lower than university level athletes (p=.05). In addition, the level of cognitive anxiety of state were higher than national (p=0.05), but lower than district (p=.05) and university (p=.05) level athletes. Lastly, the level of cognitive anxiety of national were lower than state (p=.05), district (p=.05) and university level athletes (p=.05).

Table 4: Post Hoc Tukey Test: Level of Cognitive Anxiety among Runners

Skill of Athletes	National	State	Distict	University	N
National		* (1.3210)	* (1.6241)	* (2.4271)	33
State					21
District					35
University					18

*p=.05

Level of Sport Performance

Table 5 shows the mean scores for the sport performance among the runners of different skills, F (3, 107) = 17.402, p < .01. Apparently, significant differences emerged for the athletes having different skills at competition. Overall, the mean score obtained for the national athletes was higher than those in other categories.

Table 5: Level of Sport Performance among Runners

Skills of Athletes	Mean	F-Value	P-Value
National	21.5768		
State	18.7729	17.402**	0.000
District	15.4781		
University	13.1042		

** p=.01

Post-Hoc Tukey Test (Table 6) showed that the level of sport performance of national were higher than district (p=.05), state (p=.05) and university (p=.05) level athletes. Furthermore, the level of sport performance state Runners were higher than district (p=.05) and university (p=.05), but lower than national level athletes (p=.05). In addition, the level of sport performance of district were higher than university (p=0.05), but lower than national (p=.05) and state (p=.05) level athletes. Lastly, the level of sport performance of university were lower than state (p=.05), district (p=.05) and national level athletes (p=.05).

Table 6: Post Hoc Tukey Test: Level of Sport Performance among Runners

Skill of Athletes	National	State	Distict	University	N
National		* (1.3131)	* (1.8201)	* (2.8312)	27
State					17
District					18
University					15

*p=.05

Correlation of Cognitive Anxiety and Sport Performance

The correlation coefficient of -0.72 was noted between the level of cognitive anxiety and sport performance in the evaluation of 77 Runners, which is significant (P < .05). In other words, the negative relationship existing between these variables is statistically significant (Table 7). Negative correlation indicates that either variables increase or decrease contradictory.

Table 7: The Relationship between the Level of Cognitive Anxiety and Sport Performance

Subject	Sport Performance
The Level of Cognitive Anxiety	-0.72** (0.000)

* * p=.05

DISCUSSION

Level of Cognitive Anxiety

The result showed that Runners of university level exhibited higher cognitive anxiety level than those in state and district categories, whereas national athletes showed the lowest level of cognitive anxiety. In Malaysia, no research involving the four categories of skills has been conducted so far, therefore this research has failed to compare these with the findings of previous research. However, according to Drive theory, the present of audience for low skilled athletes, during the sport competition could increase their cognitive anxiety. Cognitive anxiety is the extent to which an athlete worries or had negative thoughts, and the negative thoughts may include fear of failure, loss of self-esteem and self-confidence. It could lead to the poor performance of an athlete in competition. It may start before a competition in the form of pre-competitive anxiety that might affect performance throughout the competition. Elite athletes like national and state level, who have learned anxiety management skills, often respond to a greater degree to cognitive anxiety but return to their resting rate sooner than those athletes, who are not trained in anxiety management like district and university level. At the interview session with the football athletes it was found that most of the national athletes using coping strategies like positive self talk, thought stopping, relaxation techniques and imagery to reduce their cognitive anxiety level. In the other hand, most of the low skill athletes like district and university level unaware and not practicing of these techniques. Therefore, the level of cognitive anxiety of district and university level athletes was very high.

Level of Sport Performance

The result showed that national runners obtain the highest sport performance compared state, district and university skill athletes. The main reason national athletes perform better than other skill athletes because most of them use coping strategies to reduce their cognitive anxiety. High level of cognitive anxiety is the barrier for high performances in sport. The result showed that district and university skill runners experienced highest level of cognitive anxiety, therefore their sport performances has been drop. Many research proved that high level of cognitive anxiety has been the barrier to deteriorate performance in sport.

Level of Cognitive Anxiety and Sport Performance

The result revealed there exists of negative correlation between cognitive anxiety and sport performance. It means the higher the level of cognitive anxiety experience by runners, the lower sport performance level. The relationship between cognitive anxiety and performance was explained best in Multidimensional Anxiety Theory. This theory explains that cognitive anxiety effect performance. The relationship between cognitive anxiety, where an athlete experiences worries, negative thoughts and fear of failure, will effect the performance (Ampofo-Boateng, 2009).

CONCLUSION

The findings of the research determined that there are differences in the level of cognitive anxiety, showed by different categories of runners. These differences were related to their level of skill. The results showed that elite or national runners exhibited lower levels of cognitive anxiety than non-elite athletes. Low cognitive anxiety levels are very important in high sport performance. This study also showed that exist of negative correlation between cognitive anxiety and performance. Sport psychologists, sport counselors and coaches should use the present findings to recommend coping strategies to university and district level athletes that are appropriate for dealing with their athletes' cognitive anxiety.

Future research should identify the most prevalent sources of cognitive anxiety among different skill of **Runners**. Initial evidence suggest among the sources of anxiety are fear of injury, presence of audience, past unpleasant experiences, fear of lose, negative evaluation, knowledge of the opposition team, uncertainty, playing at the opposition's place, high hope, and perceived sport events as very important. Seeking sources of cognitive anxiety should be a great value to reduce the level of anxiety. Furthermore, types of coping strategies can be used to reduce the level of cognitive anxiety among athletes much depend on the sources of anxiety.

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